

35 U.S.C. § 102

Claims 1-35 and 68-75 stand rejected under 35 U.S.C. §102(b) as being unpatentable over “HTML Page Analysis Based on Visual Cues” by Yang et al. (hereinafter “Yang”). Applicant respectfully submits that claims 1-35 and 68-75 are not anticipated by Yang.

Yang is directed to HTML, page analysis based on visual cues (see, Title). As discussed in the Abstract of Yang, an approach is developed based on the observation that in most web pages, layout styles of subtitles or records of the same content category are consistent and there are apparent separation boundaries between different categories. Thus these subtitles should have similar appearances if they are rendered in visual browsers and different categories can be separated clearly. In Yang, visual similarities of HTML content objects are first measured. Then, a pattern detection algorithm is applied to detect frequent patterns of visual similarity and a number of heuristics are used to choose the most possible patterns. By grouping items according to these patterns, a hierarchical representation (tree) of HTML document with “visual consistency” inferred semantics is built.

In contrast, claim 1 recites:

A method of identifying one or more portions of a document, the method comprising:

- identifying a plurality of visual blocks in the document;
- detecting one or more separators between the visual blocks of the plurality of visual blocks; and

- constructing, based at least in part on the plurality of visual blocks and the one or more separators, a content structure for the document, wherein the content structure identifies the different visual blocks as different portions of semantic content of the document.

Applicant respectfully submits that no such identifying, detecting, and constructing is disclosed by Yang.

In the March 23, 2006 Office Action at ¶ 12, p. 4, it was asserted that:

. . . Yang discloses identifying a plurality of visual blocks in a document and detecting one or more separators between the visual blocks. Yang recites: *"records in one category are normally organized in ways having a consistent visual layout style. Boundaries between different categories are marked apparently with different visual styles or separators. As we have said, the basic idea of our approach is to detect these visual cues"* (page 2, left column, third paragraph).

Applicant respectfully disagrees.

The cited portion of Yang simply discloses that boundaries between different categories are marked apparently with different visual styles or separators, and that the basic idea of Yang is to detect those visual cues. However, the method of claim 1 recites two distinct acts: identifying a plurality of visual blocks in the document, and detecting one or more separators between the visual blocks of the plurality of visual blocks. Applicant respectfully submits that simply disclosing that boundaries between different categories are marked apparently with different visual styles or separators does not disclose the two distinct acts of identifying and detecting as recited in claim 1. Yang goes on to discuss the visual similarity of simple objects (§2.1) and the visual similarity of container objects (§2.2), but does not discuss the two distinct acts of identifying and detecting as recited in claim 1. There is no discussion or mention in Yang of two such distinct acts as recited in claim 1, and thus Applicant respectfully submits that Yang cannot disclose identifying a plurality of visual blocks in the document, and

detecting one or more separators between the visual blocks of the plurality of visual blocks as recited in claim 1.

For at least these reasons, Applicant respectfully submits that claim 1 is allowable over Yang.

With respect to claim 6, claim 6 depends from claim 1 and Applicant respectfully submits that claim 6 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 6 recites:

A method as recited in claim 3, wherein determining whether the node can be divided comprises determining that the node can be divided if the node has a child node with <HR> HyperText Markup Language (HTML) tag.

Applicant respectfully submits that no such determining is disclosed in Yang.

In the March 23, 2006 Office Action at §16, p. 6, it was asserted that:

Regarding claims 5-13, Yang discloses dividing nodes into their respective child nodes based on criteria related to tags and node properties (including colors and sizes) on page 2, the bottom of the left column to the bottom of the right column.

Applicant respectfully disagrees.

The cited portion of Yang discusses rules for comparing simple objects (see, Table I and §2.1), not determining whether a node can be divided. Applicant respectfully submits that simply comparing the simple objects of Yang does not disclose determining whether a node can be divided, much less determining that the node can be divided if the node has a child node with <HR> HyperText Markup Language (HTML) tag as recited in claim 6. Accordingly, for at least these reasons, Applicant respectfully submits that claim 6 is allowable over Yang.

With respect to claim 7, claim 7 depends from claim 1 and Applicant respectfully submits that claim 7 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 7 recites:

A method as recited in claim 3, wherein determining whether the node can be divided comprises determining that the node can be divided if a background color of the node is different from a background color of a child of the node.

Applicant respectfully submits that no such determining is disclosed in Yang. As discussed above with respect to claim 6, the cited portion of Yang discusses rules for comparing simple objects (see, Table I and §2.1), not determining whether a node can be divided. Applicant respectfully submits that simply comparing the simple objects of Yang does not disclose determining whether a node can be divided, much less determining that the node can be divided if a background color of the node is different from a background color of a child of the node as recited in claim 7. Accordingly, for at least these reasons, Applicant respectfully submits that claim 7 is allowable over Yang.

With respect to claim 8, claim 8 depends from claim 1 and Applicant respectfully submits that claim 8 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 8 recites:

A method as recited in claim 3, further comprising checking whether the node has a child having a width and height greater than zero, and if the node has no child having a width and height greater than zero then removing the node from the group of candidate nodes.

Applicant respectfully submits that no such checking and removing is disclosed in Yang. As discussed above with respect to claim 6, the cited portion of Yang discusses rules for comparing simple objects (see, Table I and §2.1), not removing a node from the group of candidate nodes if the node has no child having a width

and height greater than zero. Applicant respectfully submits that simply comparing the simple objects of Yang does not disclose removing a node from a group of candidate nodes if the node has no child having a width and height greater than zero as recited in claim 8. Accordingly, for at least these reasons, Applicant respectfully submits that claim 8 is allowable over Yang.

With respect to claim 9, claim 9 depends from claim 1 and Applicant respectfully submits that claim 9 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 9 recites:

A method as recited in claim 3, wherein determining whether the node can be divided comprises determining that the node can be divided if a background color of the node is different from a background color of a child of the node.

Applicant respectfully submits that no such determining is disclosed in Yang. As discussed above with respect to claim 6, the cited portion of Yang discusses rules for comparing simple objects (see, Table I and §2.1), not determining whether a node can be divided. Applicant respectfully submits that simply comparing the simple objects of Yang does not disclose determining whether a node can be divided, much less determining that the node can be divided if a size of the node is at least a threshold amount greater than a sum of sizes of children nodes of the node as recited in claim 9. Accordingly, for at least these reasons, Applicant respectfully submits that claim 9 is allowable over Yang.

With respect to claim 10, claim 10 depends from claim 1 and Applicant respectfully submits that claim 10 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 10 recites:

A method as recited in claim 3, wherein determining whether the node can be divided comprises determining that the node can be divided if the node has multiple successive children nodes each having a
 HyperText Markup Language (HTML) tag.

Applicant respectfully submits that no such determining is disclosed in Yang. As discussed above with respect to claim 6, the cited portion of Yang discusses rules for comparing simple objects (see, Table I and §2.1), not determining whether a node can be divided. Applicant respectfully submits that simply comparing the simple objects of Yang does not disclose determining whether a node can be divided, much less determining whether the node can be divided comprises determining that the node can be divided if the node has multiple successive children nodes each having a
 HyperText Markup Language (HTML) tag as recited in claim 10. Accordingly, for at least these reasons, Applicant respectfully submits that claim 10 is allowable over Yang.

With respect to claim 15, claim 15 depends from claim 1 and Applicant respectfully submits that claim 15 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 15 recites:

A method as recited in claim 1, wherein detecting the one or more separators comprises:

initializing a separator list that includes one or more possible separators between the visual blocks;

analyzing, for each of the visual blocks, whether the visual block overlaps a separator of the separator list, and if so how the visual block overlaps the separator; and

determining how to treat the separator based on whether the visual block overlaps the separator, and if so how the visual block overlaps the separator.

Applicant respectfully submits that no such initializing, analyzing, and determining is disclosed in Yang.

In the March 23, 2006 Office Action at §17, p. 6, it was asserted that:

Regarding claims 14-30, Yang discloses detecting the one or more separators. Yang recites: *"Boundaries between different categories are marked apparently with different visual styles or separators. As we have said, the basic idea of our approach is to detect these visual cues"* (page 2, left column, third paragraph).

Applicant respectfully disagrees.

The cited portion of Yang simply discloses that boundaries between different categories are marked apparently with different visual styles or separators, and that the basic idea of Yang is to detect those visual cues. Simply disclosing that boundaries are marked with separators does not provide any discussion or mention of analyzing whether a visual block overlaps a separator of a separator list, and if so how the visual block overlaps the separator, much less of determining how to treat the separator based on whether the visual block overlaps the separator, and if so how the visual block overlaps the separator. The cited portion simply mentions that boundaries are marked with separators, not the distinct acts of initializing, analyzing, and determining as recited in claim 15. Without any discussion or mention of the initializing, analyzing, and determining as recited in claim 15, Applicant respectfully submits that Yang cannot disclose the method of claim 15. Accordingly, for at least these reasons, Applicant respectfully submits that claim 15 is allowable over Yang.

With respect to claims 16-20, given that claims 16-20 depend from claim 15, Applicant respectfully submits that claims 16-20 are likewise allowable over Yang for at least the reasons discussed above with respect to claim 15.

With respect to claim 21, claim 21 depends from claim 1 and Applicant respectfully submits that claim 21 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 21 recites:

A method as recited in claim 1, further comprising assigning, to each of the one or more separators, a weight based on characteristics of visual blocks on either side of the separator.

Applicant respectfully submits that no such assigning is disclosed in Yang.

In the March 23, 2006 Office Action at §17, p. 6, it was asserted that:

Regarding claims 14-30, Yang discloses detecting the one or more separators. Yang recites: *"Boundaries between different categories are marked apparently with different visual styles or separators. As we have said, the basic idea of our approach is to detect these visual cues"* (page 2, left column, third paragraph).

Applicant respectfully disagrees.

The cited portion of Yang simply discloses that boundaries between different categories are marked apparently with different visual styles or separators, and that the basic idea of Yang is to detect those visual cues. Simply disclosing that boundaries are marked with separators does not provide any discussion or mention of assigning weights to the separators, much less of the weight being based on characteristics of visual blocks on either side of the separator. Without any discussion or mention of assigning weight to the separators, Applicant respectfully submits that Yang cannot disclose assigning, to each of the one or more separators, a weight based on characteristics of visual blocks on either side of the separator as recited in claim 21. Accordingly, for at

least these reasons, Applicant respectfully submits that claim 21 is allowable over Yang.

With respect to claims 22-25, given that claims 22-25 depend from claim 21, Applicant respectfully submits that claims 22-25 are likewise allowable over Yang for at least the reasons discussed above with respect to claim 21.

With respect to claim 27, claim 27 depends from claim 1 and Applicant respectfully submits that claim 27 is allowable over Yang for at least the reasons discussed above regarding claim 1. Furthermore, claim 27 recites:

A method as recited in claim 1, wherein constructing the content structure comprises:

generating one or more virtual blocks based on the plurality of visual blocks; and

including, in the content structure, the one or more virtual blocks.

Applicant respectfully submits that no such generating and including is disclosed in Yang.

In the March 23, 2006 Office Action at §17, p. 6, it was asserted that:

Regarding claims 14-30, Yang discloses detecting the one or more separators. Yang recites: *"Boundaries between different categories are marked apparently with different visual styles or separators. As we have said, the basic idea of our approach is to detect these visual cues"* (page 2, left column, third paragraph).

Applicant respectfully disagrees.

The cited portion of Yang simply discloses that boundaries between different categories are marked apparently with different visual styles or separators, and that the basic idea of Yang is to detect those visual cues. Simply disclosing that boundaries are marked with separators does not provide any discussion or mention of generating one or more virtual blocks based on the visual

With respect to claim 34, claim 34 depends from claim 31 and Applicant respectfully submits that claim 34 is allowable over Yang for at least the reasons discussed above regarding claim 31. Furthermore, Applicant respectfully submits that, similar to the discussion above regarding claim 15, Yang does not disclose to analyze, for each of the visual blocks, whether the visual block overlaps a separator of the separator list, and if so how the visual block overlaps the separator, and to determine how to treat the separator based on whether the visual block overlaps the separator, and if so how the visual block overlaps the separator as recited in claim 34. Accordingly, for at least these reasons, Applicant respectfully submits that claim 34 is allowable over Yang.

With respect to claim 68, Applicant respectfully submits that, similar to the discussion above regarding claim 1, Yang does not disclose a visual block extractor to extract visual blocks from a document and a visual separator detector coupled to receive the extracted visual blocks and detect, based on the extracted visual blocks, one or more visual separators between the extracted visual blocks as recited in claim 68. Accordingly, for at least these reasons, Applicant respectfully submits that claim 68 is allowable over Yang.

With respect to claims 69-71 and 73, given that claims 69-71 and 73 depend from claim 68, Applicant respectfully submits that claims 69-71 and 73 are likewise allowable over Yang for at least the reasons discussed above with respect to claim 68.

With respect to claim 72, claim 72 depends from claim 68 and Applicant respectfully submits that claim 72 is allowable over Yang for at least the reasons discussed above regarding claim 68. Furthermore, Applicant respectfully submits

that, similar to the discussion above regarding claim 15, Yang does not disclose initializing a separator list that includes one or more possible separators between the visual blocks, and analyzing, for each of the visual blocks, whether the visual block overlaps a separator of the separator list, and if so how the visual block overlaps the separator as recited in claim 72. Accordingly, for at least these reasons, Applicant respectfully submits that claim 72 is allowable over Yang.

With respect to claim 74, Applicant respectfully submits that, similar to the discussion above regarding claim 1, Yang does not disclose means for identifying a plurality of visual blocks in the document and means for detecting one or more separators between the visual blocks of the plurality of visual blocks as recited in claim 74. Accordingly, for at least these reasons, Applicant respectfully submits that claim 74 is allowable over Yang.

With respect to claim 75, given that claim 75 depends from claim 74, Applicant respectfully submits that claim 75 is likewise allowable over Yang for at least the reasons discussed above with respect to claim 74.

Applicant respectfully requests that the §102 rejections be withdrawn.

Conclusion

Claims 1-35 and 68-75 are in condition for allowance. Applicant respectfully requests reconsideration and issuance of the subject application. Should any matter in this case remain unresolved, the undersigned attorney respectfully requests a telephone conference with the Examiner to resolve any such outstanding matter.

Respectfully Submitted,

Date: 6/21/06

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